Gartner for Supply Chain

Executive Report Excerpt

Weathering the Storm: Supply Chain Resilience in an Age of Disruption

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Supply Chains in an Age of Disruption

The playbook for 2020 wasn’t supposed to unfold like this. As the previous decade drew to a close in December, many people felt optimistic about the start of a new one. Two years of trade war tensions between the United States and China seemed to be easing. Britain had elected a new government with a clear mandate to withdraw from the European Union after more than three years of bitter divisions. Robust economic performance in many leading economies appeared to be holding a long-anticipated recession at bay. And Japan was looking forward to hosting the Olympic Games — a sporting phenomenon that brings the world together and showcases the human spirit like no other.

Instead, we were dealt a global pandemic that brought normal daily life on Earth to a shuddering halt. Businesses have been closed, workers furloughed, health services overwhelmed and events of every kind (including the 2020 Tokyo Olympics) canceled or postponed. Amid widespread controversy over global shortages of protective equipment for frontline healthcare workers, chemical reagents for mass testing, and stockouts (albeit temporary ones) of consumer staples, supply chains have come under public scrutiny like never before. For supply chain leaders, this unprecedented crisis has stretched their global operations in ways few thought they would ever see. As one high-tech supply chain executive explains, “We run business continuity plan drills every year for events like an earthquake in Taiwan, but not for a pandemic that shuts down the whole world.”

Globalization Under Pressure

Of course, global supply chains were being disrupted before COVID-19 came along. The U.S.-China trade war and Brexit symbolized resentment at three decades of globalization — a trend that supply chains have been at the forefront of driving. For Western multinational companies, the offshoring of sourcing and manufacturing activities to lower-wage economies allowed them to mass-produce an ever-increasing array of consumer and industrial goods at prices customers were willing to pay, while also improving their bottom lines. This operating model was facilitated by inexpensive labor, efficient and cost optimized logistics, and relatively stable and benign international trading conditions. Low-cost locations now play some role in almost every supply chain, even if they are far upstream at the subtier supplier level. Over time, many have grown into specialized centers producing everything from active pharmaceutical ingredients and chemicals to clothes and electronic devices, further increasing their appeal as global sourcing hubs.

However, globalized supply chains also have some notable weaknesses. These include those complex, multitier supply bases, poor upstream visibility and longer supply lead times. Such weaknesses are acknowledged by many supply chain executives, as well as in the academic community. In an article headlined "Is It Time to Rethink Globalized Supply Chains?," Harvard Business School professor Willy Shih questioned the logic of heavily outsourced, concentrated and interdependent networks. "What the current situation exposes is that the risks associated with supply chain fragmentation and globalization have been unpriced and largely ignored," he wrote. "For many companies, the combination of lean production and global multistage supply networks is leading to crises."[1]

In recent years, some companies have begun shifting away from global supply chain models to regionalized ones. Key drivers for this include being closer to customers to serve them in a more agile way and improve their experience, demand for customized products and services, stretching sustainability targets, and opportunities presented by digital technologies. This typically means attaching more weight to speed and service, relative to cost, in terms of how supply chain organizations define "network efficiency."[2]

Although agility and responsiveness are becoming more important considerations, the primary objective for most supply chain organizations remains one of maximizing efficiency. Until now, relatively few — and typically those that are more mature — have accepted that ensuring resilience in the face of major disruptions like COVID-19 and the U.S.-China trade war might actually mean dialing back on efficiency.

Increasing Resilience Is a Key Priority

Resilience is "the ability of an organization to absorb and adapt in a changing environment to enable it to deliver its objectives and to survive and prosper."[3] In practice, resilience comes with costs attached. Although the cost of doing nothing may be significant, not every firm can afford to pay this bill. Even for those that do have the financial resources, the menu of options (e.g., dual sourcing, alternative factories, spare capacity and more generous safety stocks) is often unpalatable. Such measures appear to go against the well-versed philosophy of lean supply chains founded on just-in-time principles.

Nevertheless, new Gartner research reveals that increasing resilience will be a priority for many supply chain leaders as they emerge from the current crisis and reset strategies to anticipate disruptions as the "new normal" going forward. Participants in the 2020 Gartner Weathering the Supply Chain Storm Survey were asked to choose one of three descriptions that best characterizes their supply chain networks:

- **Highly resilient —** We have good visibility to the supply network; we view an increase in flexibility/resilience as a necessary investment for the network; we have the ability to conduct scenario planning for trade-offs in the network; we can shift sourcing, manufacturing or distribution within our network fairly rapidly.

- **Moderately resilient —** We have good visibility to the supply network; it is hard to justify making the investment to modify our supply chain footprint; we focus more on managing disruptions once they occur than investing in resilience.

- **Not resilient —** We are dependent on our existing sourcing, manufacturing and/or distribution footprint, and have to find other ways to compensate for changing conditions; we have yet to invest in analytics to support network decision making.

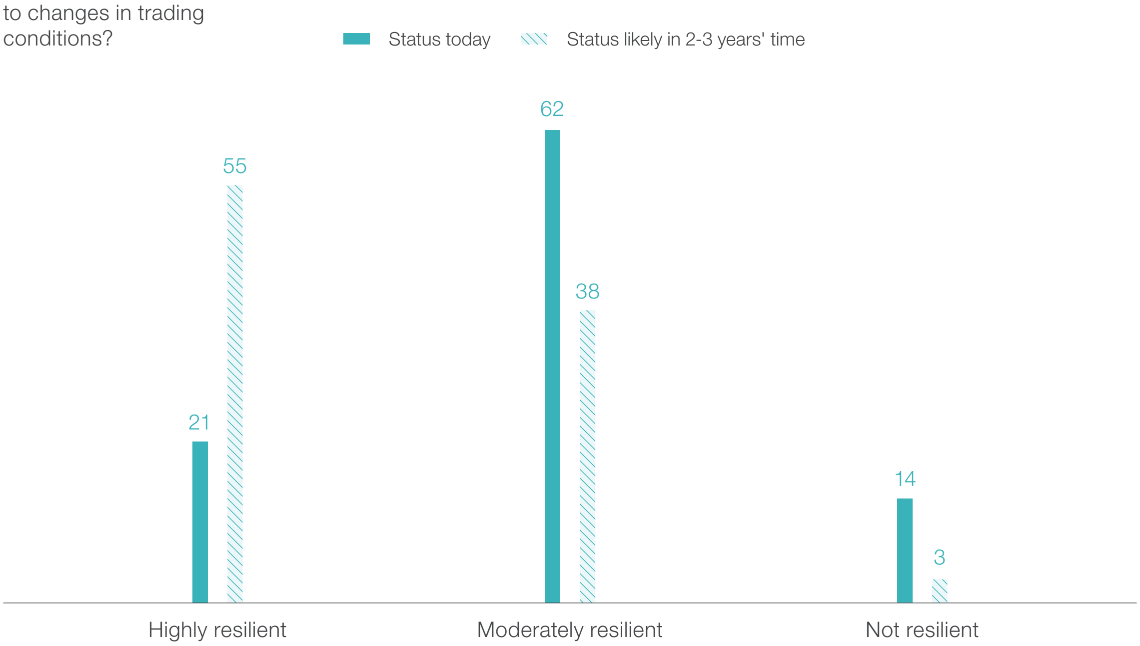
Just over one-fifth (21%) of respondents believe their networks are highly resilient today, increasing to one-third or more in the case of high-tech and consumer packaged goods (CPG) respondents. But more than half (55%) of the sample overall expects to develop these characteristics within the next two to three years (see Figure 1), with those in retail, healthcare and pharmaceuticals among the most bullish.

The key question is how to move from a network that is moderately resilient today to one that will be highly resilient in the future. The answer will obviously vary between companies and industries. However, as the descriptions above illustrate, one critical enabler is clearly a willingness at the executive leadership and board levels to invest in resilience-building measures (see the Issue Spotlight). In the past, such measures have often been viewed like insurance policies to be avoided, rather than a necessary investment to safeguard the integrity and resilience of global supply chains. In the wake of COVID-19, many companies will be under pressure from investors, regulators and other stakeholders to increase their ability to withstand external shocks.

This report draws on the 2020 Gartner Weathering the Supply Chain Storm Survey findings and interviews with supply chain leaders in sectors such as medical devices, electronics, consumer products and aerospace. It helps companies explore the main strategies to develop greater supply chain resilience in the years ahead. As Rick Spann, executive vice president of global operations at CPG firm Church & Dwight, said, “There’s nothing like a crisis to expose your opportunities to improve.”

Figure 1
Expected Increase in Supply Chain Resilience

Q. How resilient do you believe your supply chain network is, in terms of its ability to respond effectively to changes in trading conditions?



Don’t know responses are excluded.
Source: Gartner's Weathering the Supply Chain Storm Survey, 2020
% of respondents | n = 236

Issue Spotlight

Balancing Cost Optimization and Investments in Resilience

We are at a crossroads in the evaluation of global supply chains that pits just-in-time systems designed to improve operational efficiency against just-in-case plans that emphasize planning for a range of plausible scenarios. Being fully prepared for all possible crises is not possible for even the most well-funded organization. It would require redirecting vast amounts of money toward nonperforming or under-performing assets (inventory buffers, lowered capacity utilization, sacrificing volume benefits of scale for dual sourcing, and so on).

A majority of respondents to the Weathering the Supply Chain Storm Survey believe that resilience results in additional structural costs to the network (see Figure 2). A sensible approach to risk management, therefore, starts by understanding the organization's willingness to take risk onboard and how it quantifies that risk against other network objectives.[4]

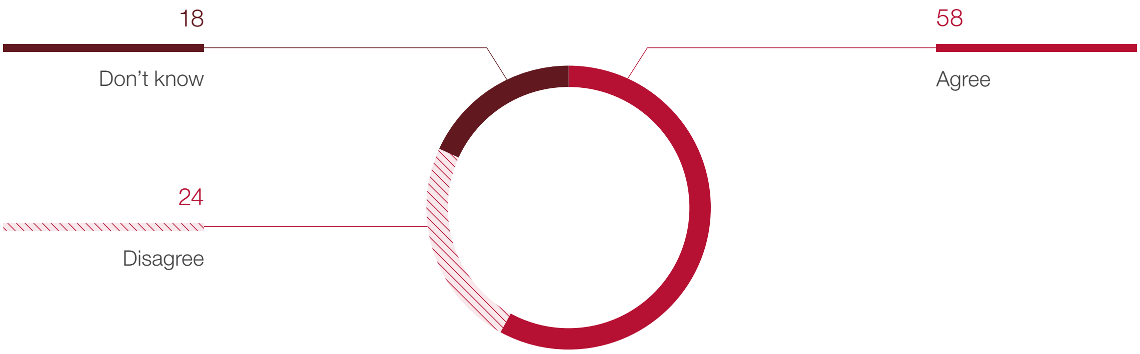
For example, an investment in increased network agility has benefits both in the context of risk mitigation and opportunity capture through being able to fulfill customer demand, improve revenue and reduce obsolete inventory. Elements to consider in an organization's ability to take risk on will include its:

- Tolerance for uncertainty
- Strategic objectives
- Ability to make a choice that puts a key objective at risk
- Prioritization of resilience

Figure 2

Resilience Costs Are Built Into Many Networks

Q. Thinking about recent changes to your supply chain network, please indicate your agreement or disagreement with the following statement: structural changes in sourcing, manufacturing or distribution models mean that increased costs are built in for additional resilience or agility.



Source: Gartner's Weathering the Supply Chain Storm Survey, 2020

% of respondents | n = 235

Other elements that will impact the company's ability to invest in buffer capacity include:

- Market position (market leaders versus smaller players)
- Nature of the product (commodity sellers versus specialty sellers)
- Profitability (markets with higher margins versus those on razor-thin margins)
- Market or regulatory influences (export restrictions or trade barriers versus free-trade agreements)

If the investment in resilience results in carrying redundant capacity, the higher costs associated with this redundancy may be made up for with operational improvements. Flexibility in the use of manufacturing plants and distribution centers can reduce the cost of changeovers, product moves or network flow changes, and enable a fast response to disruptions with minimal additional cost. The regulatory challenges that hinder diversification can be directly countered with local content rules that provide an incentive for localizing supply chain networks.

Government Support May Be the Push Needed to Accelerate Localization

In some cases, countries step in with infrastructural support to provide redundancy and support the shortening of global supply chains, and shift or preserve capabilities closer to the end markets. In the wake of the COVID-19 crisis, Germany stepped in to protect domestic firms from foreign takeovers after company valuations dropped drastically. It is accomplishing this through the Kurzarbeit initiative, which provides liquidity support to businesses and measures that make it easier to reduce working hours rather than lay off workers. Sweden has a similar program to reduce the burden to employers as employees reduce their working hours, without losing a large percentage of pay.

Japan, as part of its COVID-19 stimulus package, has earmarked $2.2 billion to help its manufacturers move out of China and back to Japan. In the case of medical equipment (e.g., personal protective equipment and generic drugs), multiple countries and trading blocs (e.g., the U.S., EU and India) have placed export restrictions on global manufacturers. Should this carrot-and-stick approach expand globally with countries supporting or insisting on local manufacturing to meet local needs, we could see an acceleration in companies being able to absorb the additional costs of diversifying their supply chains.

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